

CLAIMS

What is claimed is:

1 1. A telephony security system located within one or more locations of an
2 enterprise for monitoring and/or controlling incoming and outgoing calls between a
3 public circuit-switched network for provision of circuit-switched circuits to the public,
4 wherein a physical circuit is temporarily established on demand and kept reserved for the
5 user until the network receives a disconnect signal and one or more end-user stations
6 located within an enterprise's one or more locations, said telephony security system
7 comprising:

8 one or more rules associated with the one or more end-user stations located within
9 the enterprise's one or more locations,

10 said one or more rules associated with the one or more end-user stations located
11 within the enterprise's one or more locations designating at least one action to be
12 performed based on at least one attribute of an incoming and outgoing call between the
13 public circuit-switched network and the one or more end-user stations located within the
14 enterprise's one or more locations,

15 said at least one attribute of the incoming and outgoing call between the public
16 circuit-switched network and the one or more end-user stations located within the
17 enterprise's one or more locations is from a group including:

18 the call direction,

19 the call source,

20 the call destination,

21 the call type,
22 the keyword detected in the call content,
23 the call connect time,
24 the call start date,
25 the call start time,
26 the call end date,
27 the call end time,
28 the call duration,
29 the identifier for the extension or direct connect line carrying the call,
30 the PBX trunk through which the call is processed,
31 the channel through which the call is processed,
32 the digits dialed prior to the base phone number, and
33 the digits dialed after the base phone number;
34 means for determining said at least one attribute of the incoming and outgoing call
35 between the public circuit-switched network and the one or more end-user stations
36 located within the enterprise's one or more locations; and
37 means for performing said at least one action in accordance with said one or more
38 rules associated with the one or more end-user stations located within the enterprise's one
39 or more locations.

1 2. The telephony security system as defined in Claim 1 wherein said call type
2 attribute is from a group including:

3 voice,
4 fax,
5 data transfer (modem),
6 STU-III-voice,
7 STU-III-data,
8 STU-III-unspecified,
9 wideband,
10 wideband video,
11 busy,
12 unanswered, and
13 undetermined.

1 3. The telephony security system as defined in Claim 1 wherein said at least
2 one action is from a group including:

3 allowing the call,
4 denying the call,
5 redirecting the call,
6 recording the call content,
7 encrypting the call,

8 sending a tone,
9 sending a message,
10 logging the call,
11 generating a report, and
12 providing an alert,
13 adjusting the security policy, and
14 performing one or more designated assessments,
15 said one or more designated assessments including either or both of:
16 authenticating an inbound call for remote access, and
17 monitoring the call content for keywords.

1 4. The telephony security system as defined in Claim 3 wherein one or more
2 of said at least one action is performed using a remote management server and/or other
3 peripheral device,
4 said remote management server and/or other peripheral device performing said
5 one or more of said at least one action from a group including:
6 logging the call,
7 recording the call content,
8 monitoring the call content for keywords,
9 generating a report,
10 providing an alert, and

11 adjusting the security policy.

1 5. The telephony security system as defined in Claim 3 wherein one or more
2 of said at least one action may be preempted and/or complemented by a system
3 administrator manually selecting one or more preemptive/complementary actions from a
4 group including:

5 allowing the call,

6 denying the call,

7 redirecting the call,

8 logging the call,

9 recording the call content,

10 encrypting the call,

11 generating a report,

12 providing an alert,

13 adjusting the security policy, and

14 performing one or more assessments.

1 6. The telephony security system as defined in Claim 3 wherein said action of
2 generating a report includes generating at least one report from a group including:

3 a post-event report,

4 a schedule-generated report,

5 an ad hoc report,
6 a batch analysis report,
7 a trend report, and
8 a difference/comparison report.

1 7. The telephony security system as defined in Claim 3 wherein said action of
2 generating an alert notification includes generating at least one alert notification from a
3 group including:

4 an electronic mail notification,
5 a pager alerting notification,
6 a console messaging notification, and
7 a Simple Network Management Protocol (SNMP) trap.

1 8. A telephony security system located within a public circuit-switched
2 network for monitoring and/or controlling incoming and outgoing calls between a public
3 circuit-switched network for provision of circuit-switched circuits to the public, wherein a
4 physical circuit is temporarily established on demand and kept reserved for the user until
5 the network receives a disconnect signal, and one or more end-user stations located within
6 an enterprise's one or more locations, said telephony security system comprising:

7 one or more rules associated with the one or more end-user stations located within
8 the enterprise's one or more locations,

9 said one or more rules associated with the one or more end-user stations located
10 within the enterprise's one or more locations designating at least one action to be
11 performed based on at least one attribute of an incoming and outgoing call between the
12 public circuit-switched network and the one or more end-user stations located within the
13 enterprise's one or more locations,

14 said at least one attribute of the incoming and outgoing call between the public
15 circuit-switched network and the one or more end-user stations located within the
16 enterprise's one or more locations is from a group including:

17 the call direction,

18 the call source,

19 the call destination,

20 the call type,

21 the keyword detected in the call content.

22 the call connect time,

23 the call start date,
24 the call start time,
25 the call end date,
26 the call end time,
27 the call duration,
28 the identifier for the extension or direct connect line carrying the call,
29 the PBX trunk through which the call is processed,
30 the channel through which the call is processed,
31 the digits dialed prior to the base phone number, and
32 the digits dialed after the base phone number;
33 means for determining said at least one attribute of the incoming and outgoing call
34 between the public circuit-switched network and the one or more end-user stations
35 located within the enterprise 's one or more locations; and
36 means for performing said at least one action in accordance with said one or more
37 rules associated with the one or more end-user stations located within the enterprise's one
38 or more locations.

1 9. The telephony security system as defined in Claim 8 wherein said call type
2 attribute is from a group including:

3 voice,

4 fax,

5 data transfer (modem),
6 STU-III-voice,
7 STU-III-data,
8 STU-III-unspecified,
9 wideband,
10 wideband video,
11 busy,
12 unanswered, and
13 undetermined.

1 10. The telephony security system as defined in Claim 8 wherein said at least
2 one action is from a group including:

3 allowing the call,
4 denying the call,
5 redirecting the call,
6 recording the call content,
7 encrypting the call,
8 sending a tone,
9 sending a message,
10 logging the call,

11 generating a report, and
12 providing an alert.
13 adjusting the security policy, and
14 performing one or more designated assessments,
15 said one or more assessments include either or both of:
16 authenticating an inbound call for remote access, and
17 monitoring the call content for keywords.

1 11. The telephony security system as defined in Claim 10 wherein one or more
2 of said at least one action is performed using a remote management server and/or other
3 peripheral device,

4 said remote management server and/or other peripheral device performing said
5 one or more of said at least one action from a group including:

6 logging the call,
7 recording the call content,
8 monitoring the call content for keywords,
9 generating a report,
10 providing an alert, and
11 adjusting the security policy.

1 12. The telephony security system as defined in Claim 10 wherein one or more
2 of said at least one action may be preempted and/or complemented by a system
3 administrator manually selecting one or more preemptive/complementary actions from a
4 group including:

5 allowing the call,
6 denying the call,
7 redirecting the call,
8 logging the call,
9 recording the call content,
10 encrypting the call,
11 generating a report,
12 providing an alert,
13 adjusting the security policy, and
14 performing one or more assessments.

1 13. The telephony security system as defined in Claim 10 wherein said action
2 of generating a report includes generating at least one report from a group including:

3 a post-event report,
4 a schedule-generated report,
5 an ad hoc report,
6 a batch analysis report,

7 a trend report, and
8 a difference/comparison report.

1 14. The telephony security system as defined in Claim 10 wherein said action
2 of generating an alert notification includes generating at least one alert notification from a
3 group including:

4 an electronic mail notification,
5 a pager alerting notification,
6 a console messaging notification, and
7 a Simple Network Management Protocol (SNMP) trap.

1 15. A method for monitoring and/or controlling incoming and outgoing calls
2 between a public circuit-switched network for provision of circuit-switched circuits to the
3 public, wherein a physical circuit is temporarily established on demand and kept reserved
4 for the user until the network receives a disconnect signal, and one or more end-user
5 stations located within an enterprise's one or more locations, said method comprising the
6 following steps to be performed within the public circuit-switched network:

7 establishing one or more rules associated with the one or more end-user stations
8 located within the enterprise's one or more locations,

9 said one or more rules associated with the one or more end-user stations located
10 within the enterprise's one or more locations designating at least one action to be
11 performed based on at least one attribute of an incoming and outgoing call between the
12 public circuit-switched network and the one or more end-user stations located within the
13 enterprise's one or more locations,

14 said at least one attribute of the incoming and outgoing call between the public
15 circuit-switched network and the one or more end-user stations located within the
16 enterprise's one or more locations is from a group including:

17 the call direction,

18 the call source,

19 the call destination,

20 the call type,

21 the keyword detected in the call content.

22 the call connect time,

23 the call start date,
24 the call start time,
25 the call end date,
26 the call end time,
27 the call duration,
28 the identifier for the extension or direct connect line carrying the call,
29 the PBX trunk through which the call is processed,
30 the channel through which the call is processed,
31 the digits dialed prior to the base phone number, and
32 the digits dialed after the base phone number;
33 determining said at least one attribute of the incoming and outgoing call between
34 the public circuit-switched network and the one or more end-user stations located within
35 the enterprise 's one or more locations; and
36 performing said at least one action in accordance with said one or more rules
37 associated with the one or more end-user stations located within the enterprise's one or
38 more locations.

1 16. A telephony security system located within one or more locations of an
2 enterprise for monitoring and/or controlling incoming and outgoing calls between a
3 public packet-switched network for provision of packet-switched circuits to the public,
4 wherein data is carried in the form of packets and one or more end-user stations located
5 within an enterprise's one or more locations, said telephony security system comprising:

6 one or more rules associated with the one or more end-user stations located within
7 the enterprise's one or more locations,

8 said one or more rules associated with the one or more end-user stations located
9 within the enterprise's one or more locations designating at least one action to be
10 performed based on at least one attribute of an incoming and outgoing call packet
11 between the public packet-switched network and the one or more end-user stations
12 located within the enterprise's one or more locations,

13 said at least one attribute of the incoming and outgoing call packet between the
14 public packet-switched network and the one or more end-user stations located within the
15 enterprise's one or more locations is from a group including:

16 the call direction,

17 the call source,

18 the call destination,

19 the call type,

20 the keyword detected in the call content,

21 call connect time,

22 the call start date,

23 the call start time,
24 the call end date,
25 the call end time,
26 the call duration,
27 the codec used,
28 the number of bytes from the call source,
29 the number of bytes from the call destination,
30 the number of packets from the call source,
31 the number of packets from the call destination,
32 source transmission rate,
33 destination transmissions rate,
34 source latency,
35 destination latency,
36 source jitter,
37 destination jitter,
38 source packet loss,
39 destination packet loss, and
40 total bandwidth used;
41 means for determining said at least one attribute of the incoming and outgoing call
42 packet between the public packet-switched network and the one or more end-user stations
43 located within the enterprise 's one or more locations; and

44 means for performing said at least one action in accordance with said one or more
45 rules associated with the one or more end-user stations located within the enterprise's one
46 or more locations.

1 17. The telephony security system as defined in Claim 15 wherein said call
2 type attribute is from a group including:

3 IP voice,
4 busy,
5 unanswered, and
6 undetermined.

1 18. The telephony security system as defined in Claim 15 wherein said at least
2 one action is from a group including:

3 allowing the call,
4 denying the call,
5 redirecting the call,
6 recording the call content,
7 encrypting the call,
8 sending a tone,
9 sending a message,
10 logging the call,

11 generating a report, and
12 providing an alert.
13 adjusting the security policy, and
14 performing one or more designated assessments,
15 said one or more assessments include either or both of:
16 authenticating an inbound call for remote access, and
17 monitoring the call content for keywords.

1 19. The telephony security system as defined in Claim 18 wherein one or more
2 of said at least one action is performed using a remote management server and/or other
3 peripheral device,
4 said remote management server and/or other peripheral device performing said
5 one or more of said at least one action from a group including:
6 logging the call,
7 recording the call content,
8 monitoring the call content for keywords,
9 generating a report,
10 providing an alert, and
11 adjusting the security policy.

1 20. The telephony security system as defined in Claim 18 wherein one or more
2 of said at least one action may be preempted and/or complemented by a system
3 administrator manually selecting one or more preemptive/complementary actions from a
4 group including:

5 allowing the call,
6 denying the call,
7 redirecting the call,
8 logging the call,
9 recording the call content,
10 encrypting the call,
11 generating a report,
12 providing an alert,
13 adjusting the security policy, and
14 performing one or more assessments.

1 21. The telephony security system as defined in Claim 18 wherein said action
2 of generating a report includes generating at least one report from a group including:

3 a post-event report,
4 a schedule-generated report,
5 an ad hoc report,
6 a batch analysis report,

7 a trend report, and
8 a difference/comparison report.

1 22. The telephony security system as defined in Claim 18 wherein said action
2 of generating an alert notification includes generating at least one alert notification from a
3 group including:

4 an electronic mail notification,
5 a pager alerting notification,
6 a console messaging notification, and
7 a Simple Network Management Protocol (SNMP) trap.

1 23. A method for monitoring and/or controlling incoming and outgoing calls
2 between a public packet-switched network for provision of packet-switched circuits to the
3 public, wherein data is carried in the form of packets and one or more end-user stations
4 located within an enterprise's one or more locations, said method comprising the
5 following steps to be performed within one or more locations of an enterprise:

6 establishing one or more rules associated with the one or more end-user
7 stations located within the enterprise's one or more locations,

8 said one or more rules associated with the one or more end-user stations
9 located within the enterprise's one or more locations designating at least one
10 action to be performed based on at least one attribute of an incoming and outgoing
11 call packet between the public packet-switched network and the one or more end-
12 user stations located within the enterprise's one or more locations,

13 said at least one attribute of the incoming and outgoing call packet
14 between the public packet-switched network and the one or more end-user stations
15 located within the enterprise 's one or more locations is from a group including:

16 the call direction,

17 the call source,

18 the call destination,

19 the call type,

20 the keyword detected in the call content,

21 call connect time,

22 the call start date,

23 the call start time,
24 the call end date,
25 the call end time,
26 the call duration,
27 the codec used,
28 the number of bytes from the call source,
29 the number of bytes from the call destination,
30 the number of packets from the call source,
31 the number of packets from the call destination,
32 source transmission rate,
33 destination transmissions rate,
34 source latency,
35 destination latency,
36 source jitter,
37 destination jitter,
38 source packet loss,
39 destination packet loss, and
40 total bandwidth used;
41 determining said at least one attribute of the incoming and outgoing call
42 packet between the public packet-switched network and the one or more end-user
43 stations located within the enterprise 's one or more locations; and

44 performing said at least one action in accordance with said one or more
45 rules associated with the one or more end-user stations located within the
46 enterprise's one or more locations.

1 24. A telephony security system located within a public-switched network for
2 monitoring and/or controlling incoming and outgoing calls between a public packet-
3 switched network for provision of packet-switched circuits to the public, wherein data is
4 carried in the form of packets and one or more end-user stations located within an
5 enterprise's one or more locations, said telephony security system comprising:

6 one or more rules associated with the one or more end-user stations located
7 within the enterprise's one or more locations,

8 said one or more rules associated with the one or more end-user
9 stations located within the enterprise's one or more locations designating
10 at least one action to be performed based on at least one attribute of an
11 incoming and outgoing call packet between the public packet-switched
12 network and the one or more end-user stations located within the
13 enterprise's one or more locations,

14 said at least one attribute of the incoming and outgoing call packet
15 between the public packet-switched network and the one or more end-user
16 stations located within the enterprise 's one or more locations is from a
17 group including:

18 the call direction,

19 the call source,

20 the call destination,

21 the call type,

22 the keyword detected in the call content,

23 the call connect time,

24 the call start date,
25 the call start time,
26 the call end date,
27 the call end time,
28 the call duration,
29 the codec used,
30 the number of bytes from the call source,
31 the number of bytes from the call destination,
32 the number of packets from the call source,
33 the number of packets from the call destination,
34 source transmission rate,
35 destination transmission rate,
36 source latency,
37 destination latency,
38 source jitter,
39 destination jitter,
40 source packet loss,
41 destination packet loss, and
42 total bandwidth used;

43 means for determining said at least one attribute of the incoming and
44 outgoing call packet between the public packet-switched network and the one or
45 more end-user stations located within the enterprise's one or more locations; and

46 means for performing said at least one action in accordance with said one
47 or more rules associated with the one or more end-user stations located within the
48 enterprise's one or more locations.

1 25. The telephony security system as defined in Claim 24 wherein said call
2 type attribute is from a group including:

3 IP voice,
4 busy,
5 unanswered, and
6 undetermined.

1 26. The telephony system as defined in Claim 24 wherein said at least one
2 action is from a group including:

3 allowing the call,
4 denying the call,
5 redirecting the call,
6 recording the call content,
7 encrypting the call,

8 sending a tone,
9 sending a message,
10 logging the call,
11 generating a report, and
12 providing an alert.
13 adjusting the security policy, and
14 performing one or more designated assessments,
15 said one or more designated assessments including either or both of:
16 authenticating an inbound call for remote access, and
17 monitoring the call content for keywords.

1 27. The telephony security system as defined in Claim 26 wherein one or more
2 of said at least one action is performed using a remote management server and/or other
3 peripheral device,
4 said remote management server and/or other peripheral device performing said
5 one or more of said at least one action from a group including:
6 logging the call,
7 recording the call content,
8 monitoring the call content for keywords,
9 generating a report,
10 providing an alert, and

11 adjusting the security policy.

1 28. The telephony security system as defined in Claim 26 wherein one or more
2 of said at least one action may be preempted and/or complemented by a system
3 administrator manually selecting one or more preemptive/complementary actions from a
4 group including:

5 allowing the call,
6 denying the call,
7 redirecting the call,
8 logging the call,
9 recording the call content,
10 encrypting the call,
11 generating a report,
12 providing an alert,
13 adjusting the security policy, and
14 performing one or more assessments.

1 29. The telephony security system as defined in Claim 26 wherein said action
2 of generating a report includes generating at least one report from a group including:
3 a post-event report,
4 a schedule-generated report,

5 an ad hoc report,
6 a batch analysis report,
7 a trend report, and
8 a difference/comparison report.

1 30. The telephony security system as defined in Claim 26 wherein said action
2 of generating an alert notification includes generating at least one alert notification from a
3 group including:

4 an electronic mail notification,
5 a pager alerting notification,
6 a console messaging notification, and
7 a Simple Network Management Protocol (SNMP) trap.

1 31. A telephony security system located within one or more locations of an
2 enterprise for monitoring and/or controlling incoming and outgoing calls between a
3 public circuit-switched network for provision of circuit-switched circuits to the public,
4 wherein a physical circuit is temporarily established on demand and kept reserved for the
5 user until the network receives a disconnect signal and/or a public packet-switched
6 network for provision of packet-switched circuits to the public, wherein data is carried in
7 the form of packets and one or more end-user stations located within an enterprise's one
8 or more locations, said telephony security system comprising:

9 one or more rules associated with the one or more end-user stations located
10 within the enterprise's one or more locations,

11 said one or more rules associated with the one or more end-user stations
12 located within the enterprise's one or more locations designating at least one
13 action to be performed based on at least one attribute of an incoming and outgoing
14 call and/or call packet between the public circuit-switched network and/or the
15 public packet-switched network and the one or more end-user stations located
16 within the enterprise's one or more locations,

17 said at least one attribute of the incoming and outgoing call and/or call
18 packet between the public circuit-switched network and/or the public packet-
19 switched network and the one or more end-user stations located within the
20 enterprise 's one or more locations is from a group including:

21 the call direction,

22 the call source,

23 the call destination,

24 the call type,
25 the keyword detected in the call content,
26 the call connect time,
27 the call start date,
28 the call start time,
29 the call end date,
30 the call end time,
31 the call duration,
32 the identifier for the extension or direct connect line carrying the
33 call,
34 the PBX trunk through which the call is processed,
35 the channel through which the call is processed,
36 the digits dialed prior to the base phone number,
37 the digits dialed after the base phone number,
38 the codec used,
39 the number of bytes from the call source,
40 the number of bytes from the call destination,
41 the number of packets from the call source,
42 the number of packets from the call destination,
43 source transmission rate,

44 destination transmission rate,
45 source latency,
46 destination latency,
47 source jitter,
48 destination jitter,
49 source packet loss,
50 destination packet loss, and
51 total bandwidth used;

52 means for determining said at least one attribute of the incoming and
53 outgoing call and/or call packet between the public circuit-switched network
54 and/or the public packet-switched network and the one or more end-user stations
55 located within the enterprise's one or more locations; and

56 means for performing said at least one action in accordance with said one
57 or more rules associated with the one or more end-user stations located within the
58 enterprise's one or more locations.

1 32. The telephony security system as defined in Claim 31 wherein said call
2 type attribute is from a group including:

3 voice,

4 fax,

5 data transfer (modem),

6 STU-III-voice,
7 STU-III-data,
8 STU-III-unspecified,
9 wideband,
10 wideband video
11 IP voice,
12 busy,
13 unanswered, and
14 undetermined.

1 33. The telephony security system as defined in Claim 31 wherein said at least
2 one action is from a group including:
3 allowing the call,
4 denying the call,
5 redirecting the call,
6 recording the call content,
7 encrypting the call,
8 sending a tone,
9 sending a message,
10 logging the call,

11 generating a report, and
12 providing an alert.
13 adjusting the security policy, and
14 performing one or more designated assessments,
15 said one or more designated assessments including either or both of:
16 authenticating an inbound call for remote access, or
17 monitoring the call content for keywords.

1 34. The telephony security system as defined in Claim 33 wherein one or more
2 of said at least one action is performed using a remote management server and/or other
3 peripheral device,
4 said remote management server and/or other peripheral device performing said
5 one or more of said at least one action from a group including:
6 logging the call,
7 recording the call content,
8 monitoring the call content for keywords,
9 generating a report,
10 providing an alert, and
11 adjusting the security policy.

1 35. The telephony security system as defined in Claim 33 wherein one or more
2 of said at least one action may be preempted and/or complemented by a system
3 administrator manually selecting one or more preemptive/complementary actions from a
4 group including:

5 allowing the call,
6 denying the call,
7 redirecting the call,
8 logging the call,
9 recording the call content,
10 encrypting the call,
11 generating a report,
12 providing an alert,
13 adjusting the security policy, and
14 performing one or more assessments.

1 36. The telephony security system as defined in Claim 33 wherein said action
2 of generating a report includes generating at least one report from a group including:

3 a post-event report,
4 a schedule-generated report,
5 an ad hoc report,
6 a batch analysis report,

7 a trend report, and
8 a difference/comparison report.

1 37. The system as defined in Claim 33 wherein said action of generating an
2 alert notification includes generating at least one alert notification from a group including:
3 an electronic mail notification,
4 a pager alerting notification,
5 a console messaging notification, and
6 a Simple Network Management Protocol (SNMP) trap.

1 38. A method for monitoring and/or controlling incoming and outgoing calls
2 between a public circuit-switched network for provision of circuit-switched circuits to the
3 public, wherein a physical circuit is temporarily established on demand and kept reserved
4 for the user until the network receives a disconnect signal and/or a public packet-switched
5 network for provision of packet-switched circuits to the public, wherein data is carried in
6 the form of packets and one or more end-user stations located within an enterprise's one
7 or more locations, said method comprising the following steps to be performed within one
8 or more locations of an enterprise:

9 establishing one or more rules associated with the one or more end-user
10 stations located within the enterprise's one or more locations,

11 said one or more rules associated with the one or more end-user
12 stations located within the enterprise's one or more locations designating
13 at least one action to be performed based on at least one attribute of an
14 incoming and outgoing call and/or call packet between the public circuit-
15 switched network and/or the public packet-switched network and the one
16 or more end-user stations located within the enterprise's one or more
17 locations,

18 said at least one attribute of the incoming and outgoing call and/or
19 call packet between the public circuit-switched network and/or the public
20 packet-switched network and the one or more end-user stations located
21 within the enterprise 's one or more locations is from a group including:

22 the call direction,

23 the call source,

24 the call destination,
25 the call type,
26 the keyword detected in the call content,
27 the call connect time,
28 the call start date,
29 the call start time,
30 the call end date,
31 the call end time,
32 the call duration,
33 the identifier for the extension or direct connect line carrying the
34 call,
35 the PBX trunk through which the call is processed,
36 the channel through which the call is processed,
37 the digits dialed prior to the base phone number,
38 the digits dialed after the base phone number,
39 the codec used,
40 the number of bytes from the call source,
41 the number of bytes from the call destination,
42 the number of packets from the call source,
43 the number of packets from the call destination,

44 source transmission rate,
45 destination transmission rate,
46 source latency,
47 destination latency,
48 source jitter,
49 destination jitter,
50 source packet loss,
51 destination packet loss, and
52 total bandwidth used;
53 determining said at least one attribute of the incoming and outgoing call
54 and/or call packet between the public circuit-switched network and/or the public
55 packet-switched network and the one or more end-user stations located within the
56 enterprise's one or more locations; and
57 performing said at least one action in accordance with said one or more
58 rules associated with the one or more end-user stations located within the
59 enterprise's one or more locations.

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1 39. A telephony security system located within either a public circuit-switched
2 network and/or a public packet-switched network for monitoring and/or controlling
3 incoming and outgoing calls between the public circuit-switched network and/or the
4 public packet-switched network and one or more end-user stations located within an
5 enterprise's one or more locations, said telephony security system comprising:

6 one or more rules associated with the one or more end-user stations located
7 within the enterprise's one or more locations,

8 said one or more rules associated with the one or more end-user stations
9 located within the enterprise's one or more locations designating at least one
10 action to be performed based on at least one attribute of an incoming and outgoing
11 call and/or call packet between the public circuit-switched network and/or the
12 public packet-switched network and the one or more end-user stations located
13 within the enterprise's one or more locations,

14 said at least one attribute of the incoming and outgoing call and/or call
15 packet between the public circuit-switched network and/or the public packet-
16 switched network and the one or more end-user stations located within the
17 enterprise 's one or more locations is from a group including:

18 the call direction,

19 the call source,

20 the call destination,

21 the call type,

22 the keyword detected in the call content,

23 the call connect time,

24 the call start date,
25 the call start time,
26 the call end date,
27 the call end time,
28 the call duration,
29 the identifier for the extension or direct connect line carrying the
30 call,
31 the PBX trunk through which the call is processed,
32 the channel through which the call is processed,
33 the digits dialed prior to the base phone number,
34 the digits dialed after the base phone number,
35 the codec used,
36 the number of bytes from the call source,
37 the number of bytes from the call destination,
38 the number of packets from the call source,
39 the number of packets from the call destination,
40 source transmission rate,
41 destination transmission rate,
42 source latency,
43 destination latency,

44 source jitter,
45 destination jitter,
46 source packet loss,
47 destination packet loss, and
48 total bandwidth used;
49 means for determining said at least one attribute of the incoming and
50 outgoing call and/or call packet between the public circuit-switched network
51 and/or the public packet-switched network and the one or more end-user stations
52 located within the enterprise's one or more locations; and
53 means for performing said at least one action in accordance with said one
54 or more rules associated with the one or more end-user stations located within the
55 enterprise's one or more locations.

1 40. The telephony security system as defined in Claim 39 wherein said call
2 type attribute is from a group including:

3 voice,
4 fax,
5 data transfer (modem),
6 STU-III-voice,
7 STU-III-data,
8 STU-III-unspecified,

9 wideband,
10 wideband video
11 IP voice,
12 busy,
13 unanswered, and
14 undetermined.

1 41. The telephony system as defined in Claim 39 wherein said at least one
2 action is from a group including:

3 allowing the call,
4 denying the call,
5 redirecting the call,
6 recording the call content,
7 encrypting the call,
8 sending a tone,
9 sending a message,
10 logging the call,
11 generating a report, and
12 providing an alert.
13 adjusting the security policy, and

14 performing one or more designated assessments,
15 whereby options for said one or more assessments include either or both of:
16 authenticating an inbound call for remote access, and
17 monitoring the call content for keywords.

1 42. The telephony security system as defined in Claim 41 wherein one or more
2 of said at least one action is performed using a remote management server and/or other
3 peripheral device,

4 said remote management server and/or other peripheral device performing said
5 one or more of said at least one action from a group including:

6 logging the call,
7 recording the call content,
8 monitoring the call content for keywords,
9 generating a report,
10 providing an alert, and
11 adjusting the security policy.

1 43. The telephony security system as defined in Claim 41 wherein one or more
2 of said at least one action may be preempted and/or complemented by a system
3 administrator manually selecting one or more preemptive/complementary actions from a
4 group including:

5 allowing the call,
6 denying the call,
7 redirecting the call,
8 logging the call,
9 recording the call content,
10 encrypting the call,
11 generating a report,
12 providing an alert,
13 adjusting the security policy, and
14 performing one or more assessments.

1 44. The telephony security system as defined in Claim 41 wherein said action
2 of generating a report includes generating at least one report from a group including:
3 a post-event report,
4 a schedule-generated report,
5 an ad hoc report,
6 a batch analysis report,
7 a trend report, and
8 a difference/comparison report.

1 45. The telephony security system as defined in Claim 38 wherein said action
2 of generating an alert notification includes generating at least one alert notification from a
3 group including:
4 an electronic mail notification,
5 a pager alerting notification,
6 a console messaging notification, and
7 a Simple Network Management Protocol (SNMP) trap.

1 46. A telephony security system located within one or more locations of an
2 enterprise for centralized monitoring and/or control of incoming and outgoing calls
3 between a first disparate circuit-switched communications network and a second disparate
4 packet-switched communications network and one or more end-user stations located
5 within an enterprise's one or more locations, said telephony security system comprising:

6 one or more rules associated with the one or more end-user stations located
7 within the enterprise's one or more locations,

8 said one or more rules associated with the one or more end-user stations
9 located within the enterprise's one or more locations designating at least one
10 action to be performed based on at least one attribute of an incoming and outgoing
11 call between the first of the one or more disparate communications networks
12 and/or the second of the one or more disparate communications networks and the
13 one or more end-user stations located within the enterprise's one or more
14 locations,

15 said at least one attribute of the incoming and outgoing call between the
16 first of the one or more disparate communications networks and/or the second of
17 the one or more disparate communications networks and the one or more end-user
18 stations located within the enterprise 's one or more locations is from a group
19 including:

20 the call direction,

21 the call source,

22 the call destination,

23 the call type,

24 the keyword detected in the call content,
25 the call connect time,
26 the call start date,
27 the call start time,
28 the call end date,
29 the call end time,
30 the call duration,
31 the identifier for the extension or direct connect line carrying the
32 call,
33 the PBX trunk through which the call is processed,
34 the channel through which the call is processed,
35 the digits dialed prior to the base phone number,
36 the digits dialed after the base phone number,
37 the codec used,
38 the number of bytes from the call source,
39 the number of bytes from the call destination,
40 the number of packets from the call source,
41 the number of packets from the call destination,
42 source transmission rate,
43 destination transmission rate,

44 source latency,
45 destination latency,
46 source jitter,
47 destination jitter,
48 source packet loss,
49 destination packet loss, and
50 total bandwidth used;

51 means for determining said at least one attribute of the incoming and
52 outgoing call between the first of the one or more disparate communications
53 networks and/or the second of the one or more disparate communications
54 networks and the one or more end-user stations located within the enterprise 's
55 one or more locations; and

56 means for performing said at least one action in accordance with said one
57 or more rules associated with the one or more end-user stations located within the
58 enterprise's one or more locations.

1 47. The telephony security system as defined in Claim 46 wherein said call
2 type attribute is from a group including:

3 voice,
4 fax,
5 data transfer (modem),

6 STU-III-voice,
7 STU-III-data,
8 STU-III-unspecified,
9 wideband,
10 wideband video
11 IP voice,
12 busy,
13 unanswered, and
14 undetermined.

1 48. The telephony security system as defined in Claim 46 wherein said at least
2 one action is from a group including:
3 allowing the call,
4 denying the call,
5 redirecting the call,
6 recording the call content,
7 encrypting the call,
8 sending a tone,
9 sending a message,
10 logging the call,

11 generating a report, and
12 providing an alert.
13 adjusting the security policy, and
14 performing one or more designated assessments,
15 said one or more designated assessments including either or both of:
16 authenticating an inbound call for remote access, and
17 monitoring the call content for keywords.

1 49. The telephony security system as defined in Claim 48 wherein one or more
2 of said at least one action is performed using a remote management server and/or other
3 peripheral device,
4 said remote management server and/or other peripheral device performing said
5 one or more of said at least one action from a group including:
6 logging the call,
7 recording the call content,
8 monitoring the call content for keywords,
9 generating a report,
10 providing an alert, and
11 adjusting the security policy.

1 50. The telephony security system as defined in Claim 48 wherein one or more
2 of said at least one action may be preempted and/or complemented by a system
3 administrator manually selecting one or more preemptive/complementary actions from a
4 group including:

5 allowing the call,
6 denying the call,
7 redirecting the call,
8 logging the call,
9 recording the call content,
10 encrypting the call,
11 generating a report,
12 providing an alert,
13 adjusting the security policy, and
14 performing one or more assessments.

1 51. The telephony security system as defined in Claim 48 wherein said action
2 of generating a report includes generating at least one report from a group including:

3 a post-event report,
4 a schedule-generated report,
5 an ad hoc report,
6 a batch analysis report,

7 a trend report, and
8 a difference/comparison report.

1 52. The telephony security system as defined in Claim 48 wherein said action
2 of generating an alert notification includes generating at least one alert notification from a
3 group including:

4 an electronic mail notification,
5 a pager alerting notification,
6 a console messaging notification, and
7 a Simple Network Management Protocol (SNMP) trap.

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